The MAC Flyer

JUNE 1977

Aviation Character, An Essential Ingredient.
Page 19.

MILITARY AIRLIFT COMMAND

GEN WILLIAM G. MOORE, JR. Commander in Chief

LT GEN JOHN F. GONGE Vice Commander in Chief

BRIG GEN WILLIAM E. CARSON Inspector General

COL EMERY J. CRANE Director of Safety

For Greater Efficiency
in MAC Air Operations

The MAC Flyer

THE STAFF

LT COL JOHN W. RAY Supervising Editor

LT COL ORLEN L. BROWNFIELD Associate Editor

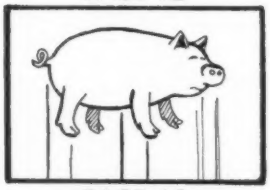
CAPT BRUCE L. GUMBLE Associate Editor

ISOBEL M. BRYANT Managing Editor

BRIAN L. GAUSS Art Director

JUNE 1977 MACRP 127-5 VOL XXIV, NO. 6

PAGE 12



PAGE 16

PAGE 24

Is There a Midair in Your Future? 3

Touchdown: 600 Feet Above Minimums 4

Mishaps with a Moral 7

Why Can't I Wear Contact Lenses? 10

Satan's Safety 12

Global Notes 15

The Flying Circus 16

Aviation Character, An Essential Ingredient 19

Good Show 22

Déjà Vu 23

C.R. Terror 24

Who's Following Whom? 27

Quick Stoppers 28

THE MAC FLYER is published by the Directorate of Safety, Headquarters Military Airlift Command. The contents are informative and not regulatory or directive. All names in accident stories are fictitious and no information concerning aircraft accidents may be construed as incriminating under Article 31, UCMJ.

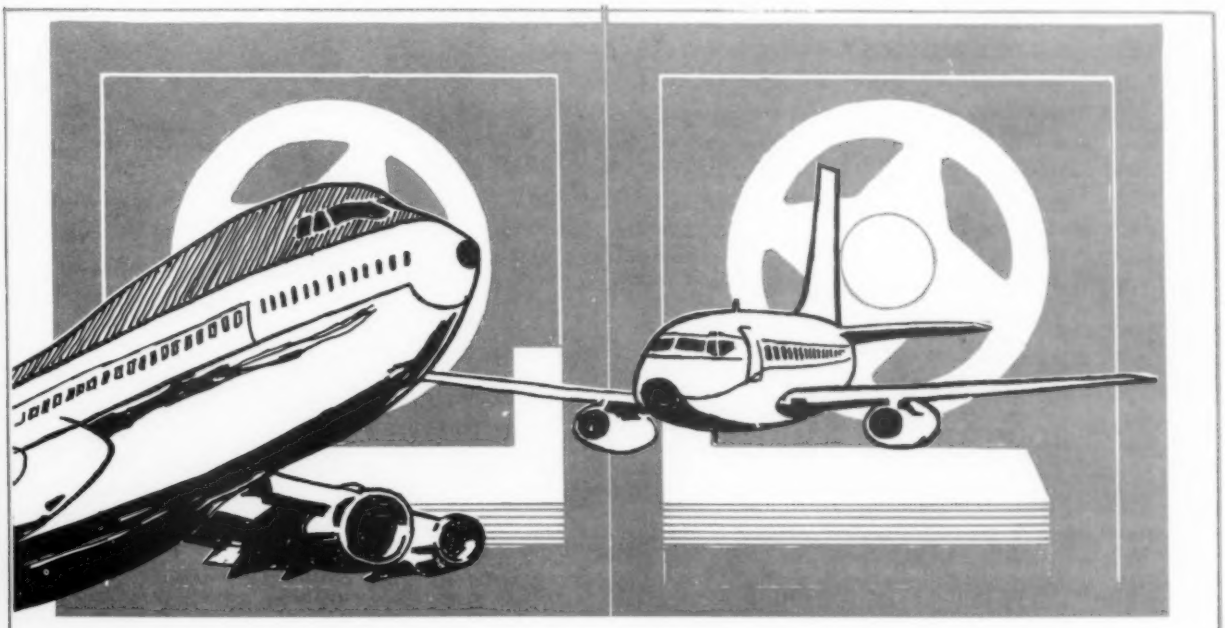
Contributions, comments, and criticisms are welcome. Write: The Editor, THE MAC FLYER, MAC/IGFE, Scott AFB, IL 62225, or call: (618) 256-3534, Autovon 638- 3534. The editor reserves the right to change manuscripts to improve them or correct technical errors.

The magazine is available from: The Superintendent of Documents, Government Printing Office, Washington, DC 20402. Price 70 cents per copy, $7.90 per year ($9.90 foreign).

Distribution F, X; OPR MAC/IGFE.

A computer query:

Is There a Midair in Your Future?



If this question elicited a quick "It - won't - happen - to - me" response, consider the following:

- Each year, the Air Force Inspection and Safety Center issues a computer-generated forecast of aircraft accidents for the coming year. Past performance shows the forecast to be quite accurate — and for 1977 the computer predicts a midair collision involving a cargo-type aircraft.

- During 1976, MAC crews submitted 63 reports of near-midair collisions. This is more than double that of 1975 when 22 were reported.

One reason for the increase in near-midair reports may be the gain in MAC's aircraft inventory and increased emphasis on reporting under the Hazardous Air Traffic Reporting Program. But there can be no doubt that the risk of a midair collision is increasing.

To prove the computer's forecast wrong, we need to do more than simply reiterate the "see-and-avoid" concept. Let's take a look at some of the techniques for preventing two aircraft from trying to occupy the same space at the same time.

Use extreme caution in terminal areas. This is where traffic density is greatest, and where the mix of IFR and VFR traffic creates the greatest hazard. Flying a practice instrument approach in VFR conditions is fine, but it's *not* the time to keep your eyes glued to the gauges. Even a radar monitor may not help; there are a lot of non-transponder-equipped aircraft around that may not appear on the controller's scope. Don't get complacent, not even on final.

If you can't look, listen. Recent improvements in the U.S. air traffic control system such as the Conflict Alert System and transponder altitude readout have made life a little safer for everybody, but any system has flaws. In IMC, pay attention to the radios and keep up with the traffic situation in your area. This is particularly applicable in the less sophisticated ATC environment overseas, as last year's collision of two commercial airliners in the European high altitude IFR structure graphically illustrates.

Use the hazard reporting system. The Hazardous Air Traffic Report (HATR) is an excellent tool for detecting and correcting defects in the air traffic control system. If you have a close call, let the world know about it. The time to eliminate a hazard is *before* it leads to an accident.

Sometimes it *is* nice to fool a computer. Let's keep that accident forecast from coming true.

Honorable Mention, 1976 MAC Flying Safety Writing Contest

Touchdown: 600 Feet *Above* Minimums

by Capt George O. Brewer
9 MAS
Dover AFB, Delaware

Flying in the Antarctic presents unusual hazards.

FM COMNAVSUPPFORANTARCTICA
MCMURDO STATION ANTARCTICA TO
UHHJLQ/DET DELTA
NAVSUPPFORANTARCTICA CHCH NZ
RUHHJLM/OL-D 61ST MILITARY ALFT
SUPPORT WING USAF CHCH NZ
BT
UNCLAS //N03000//
DET DELTA PASS TO AIRCRAFT
COMMANDER MAC 38090 . . .
DEEP FREEZE HAS FOR SEVERAL
YEARS GREATLY BENEFITED FROM
AND DEPENDED HEAVILY ON THE
OUTSTANDING SERVICE AND
PROFESSIONAL PERFORMANCE OF
THE CREWS OF THE MILITARY
AIRLIFT COMMAND IN ITS
MISSION OF PROVIDING LOGISTIC
SUPPORT TO THE UNITED STATES
ANTARCTIC RESEARCH PROGRAM ...

If MAC crewmembers had to be put into two categories, it might be safe to say that there are those who have gone to Antarctica and those who hope to go someday.

Just the thought of going to McMurdo Station, almost to the South Pole, is enough to get anyone excited. The whole, fascinating concept of Antarctica is practically overwhelming. Imagine a continent that is larger than the United States and Europe combined and yet has no permanent inhabitants. International treaties actually seem to be working there, without disputes. An active volcano? Desert valleys? Hot springs? Antarctica has them all. And, as my copilot said several times, the

big thing at the South Pole is the ice. Big it is indeed—in some places more than 9,000 feet thick.

And speaking of ice—ice is what you land on. Not an icy runway, but a runway plowed into ice over the sea.

The event which is the subject of this story occurred during my first approach to that runway. And, Antarctica or not, it had nothing to do with ice or cold. But I'm getting ahead of myself.

Each trip to McMurdo is a thrilling adventure. Everyone learns something new on each shuttle. ETP (Equal Time Point) becomes TAP (Turn Around Point). A headwind going south (on a grid heading of 358 degrees) may be a one-time good deal. The weather at McMurdo can be perfect and then go zero/zero in a few minutes. When that happens, you reverse course, at or before TAP, and the former headwind becomes a nice friendly tailwind to help you back to New Zealand.

Before leaving McGuire, we all went through extensive, thorough preparations for the trip "south." Each crew was required to have a minimum of one pilot and one navigator who had previously flown to McMurdo. But even so, each shuttle is different.

In addition to being issued special cold weather clothing, we were given briefings on terrain and weather and studied airfield and runway photos. We became familiar with the approaches, navigation aids and communication facilities and in doing so became aware of a special interest item on the approach plates—"Caution: Radio altimeter and radar altimeter readings may be erratic over ice and snow . . . "

We would be flying most of our approaches to runway 25G (25 Grid). The terrain on final approach to this runway is very flat; following good instrument procedures, even when VFR, is important because flat, white terrain can be very deceptive. Depth perception can become unreliable and spatial disorientation is always a definite possibility. Utilizing all available nav aids is doubly important in a strange environment such as Antarctica—as we were later to learn from experience.

On this Deep Freeze mission, we were flying about 75 Navy and research personnel from the United States. They were part of the summer crew which deploys in October and leaves on the last ship out as summer ends in Janaury. These personnel were all on board for the big event—our first shuttle to the ice.

During our flight, a three-way HF radio hookup was maintained. By using this arrangement, the aircraft crew, McMurdo, and Christchurch could communicate with each other, anytime, directly or through the third party.

We routinely received and recorded forecasts and present-time weather sequences at least once each hour during the flight from Christchurch to McMurdo; the most recent forecast was used when it came time to make the decision to continue to McMurdo or return to Christchurch.

. . . I WISH TO TAKE THIS OPPORTUNITY TO EXTEND MY PROFOUND APOLOGY TO THE AIRCRAFT COMMANDER AND CREW OF C-141 MAC 38090 WITH REGARD TO ERRONEOUS ALTIMETER SETTINGS WHICH WERE PASSED TO THE AIRCRAFT DURING THE SOUTHBOUND PORTION OF THE MISSION...

Our last weather sequence was received just prior to our Turn Around Point, shortly before the descent point. The forecast was good, so we pressed on; otherwise, we would have turned around and headed back. Fuel planning is so critical that, once you start your descent, there may be insufficient fuel to turn around, climb back to altitude and return to Christchurch. Should the weather deteriorate after descent, a crew can only enter holding and hope it clears.

Prior to our departure from McGuire, the briefing team had mentioned that "McMurdo is occasionally in a very low pressure area. Don't be surprised by low altimeter settings." Correct procedures call for a readback and for everyone to set in the current setting. If something sounds strange, you question it. But what is so strange about 29.92?

. . . THE ALTIMETER SETTINGS GIVEN AT 1300Z, 1400Z AND 1500Z WERE 29.90, 29.92, AND 29.92 RESPECTIVELY . . .

The last weather sequence and forecast, prior to descent from 43,000 feet, indicated that we would have a partial overcast at 1,000 feet and a ceiling around 25,000. Winds were no problem and the altimeter—29.92. After terminating HF radio contact we received the same information from the tower. Field grade weather! Piece of cake!

"Descent Checklist."

The choice of approaches was either a tacan or

an ASR, each having 300-foot minimums. The elevation of runway 25G is sea level—zero feet. Williams Field, elevation 47 feet, is a few miles away and controllers there provide the ASR.

We were flying the tacan approach with an ASR-monitored backup. Passing 2,000 feet we were about 13 miles out from the tacan and descending to the 300-foot minimum descent altitude.

We got a call from the ASR monitor, "Say altitude."

"Passing 2,000 feet," my right-seater replied.

There was no further comment from approach but the question got our attention. Even in that calm, smooth controller's voice such a question is rarely asked out of idle curiosity. Why did the controller want to know our altitude? Was something wrong? Cross-check, cross-check. Look outside. Cross-check.

The pressure altimeters now read about 1,500 feet and we were VFR. What happened to the 1,000 foot overcast? Both radar altimeters, and our eyes, said we were about 500 feet above the flat, white ground. How could we descend another 1,500 feet to land or even another 1,200 feet to minimums?

. . . WHEN THE CORRECT SETTINGS WERE IN FACT 28.90, 29.02 AND 29.02 . . .

We leveled off for the very simple reason that, when faced with a situation of conflicting information like this one, you're better off too high than too low. And there was a good chance that the radar altimeters and our eyes were telling us the truth. We were VFR, could see and avoid, and work on resolving the apparent discrepancies.

We maintained 500 feet, as indicated on our radar altimeters, for the last few miles. Finally we saw the runway and made an uneventful landing. On rollout the pressure altimeters read 900 feet. And we were at sea level!

. . . IT IS OBVIOUS THAT THIS IS AN EXTREMELY GRAVE ERROR AND COULD HAVE RESULTED IN THE LOSS OF AN AIRCRAFT AND ALL HANDS ABOARD . . .

All the appropriate communication tapes were replayed; and while we were still en route back to Christchurch, the Navy's Delta Squadron there received a message from the commander of McMurdo Station. The message directed that it be passed to the aircraft commander of my flight. A Navy chief met me at the aircraft and handed me the message within minutes of our arrival back at Christchurch. Every time I come across it I am reminded of what cross-checking all nav aids really means.

. . . THE ERRONEOUS INFORMATION PASSED TO THE CREW OF 38090 TODAY WAS NOT A RESULT OF INADEQUATE OR IMPROPERLY MAINTAINED EQUIPMENT. IT WAS PURELY AND SIMPLY ONE OF HUMAN ERROR FOR WHICH THERE CAN BE NO EXCUSE . . .

Corrective action was taken. The important phrase here is human error. There are humans in your airplane. And it takes standard procedures, crew discipline, and good safety habits to prevent events that can lead to great smoking holes.

ABOUT THE AUTHOR

Capt Brewer's experience in MAC began at McGuire AFB. During the course of a three-year tour, he upgraded to C-141 pilot flight examiner and served as a member of the crew which represented the 438 MAW in MAC's last CAM competition in 1972. His tour at McGuire was followed by a two-year assignment to Mather AFB, California, where he was a member of the initial cadre for the T-43. Capt Brewer is now a C-5 aircraft commander at Dover.

Mishaps with a Moral:

No Margin For Error

If you've heard it once, you've heard it a hundred times: "If the approach doesn't look right, go around." Sound advice; and, with the power reserve available in most modern turbojet or tuboprop aircraft, this rule is not difficult to follow. Even an engine-out go-around from short final will not tax the average pilot-aircraft combination beyond its limits.

But a go-around after touchdown is a different matter. With no airspeed or altitude margin, engines at idle or in reverse, and drag devices deployed, a go-around becomes more difficult. And with additional adverse factors such as a short or slippery runway, the situation may allow no margin for error.

Last year two commercial airliners crashed after aborted attempts to go around after touching down on the runway. The mishaps have much in common with each other and with last year's crash of a C-141, apparently during an attempted go-around. They also provide considerable food for thought about one of the most demanding situations a pilot can face.

Too Many Mistakes

The first accident occurred as the result of a series of errors by a highly experienced crew.

Weather was marginal as the Boeing 727 approached the airport: 800 feet obscured, visibility two miles in light snow, fog and a five-knot tailwind. The temperature was 34 degrees F; the 7,500- foot runway had just been plowed and swept, but one-eighth to one-fourth inch of slush still remained on its surface.

The captain initiated an ILS approach, but abandoned it in favor of visual references when ground reference points became visible through breaks in the clouds, even though the airfield was not yet in sight. The resulting approach was unstabilized, with deviations of as much as 1,000 feet below and 150 feet above the 3.61-degree glide slope. The aircraft crossed the runway threshold at approximately 100 feet with an airspeed more than 30 knots above that computed for the approach.

Witnesses estimated that the aircraft touched down about 3,300 feet down the runway; they also stated that it bounced, porpoised, and proceeded for some distance along the runway with only the *nose gear* on the ground. The captain testified later that he believed the aircraft had touched down about 1,500 feet from the threshold.

After touchdown, the captain continued with normal procedures for a full stop—reversing the engines, deploying ground spoilers, and applying wheel brakes. Investigators later concluded that at this point there was sufficient braking action to stop the aircraft on the remaining runway; no evidence of hydroplaning was found, and the small amount of slush on the

An aborted go-around attempt ended in death for 37 people.

runway surface would not have greatly affected traction. But after applying wheel brakes the captain concluded that braking action was insufficient and decided to go around.

The operating manual for this model of the 727 contains a warning that the thrust reversers, once deployed, may not retract fully at speeds above 40 knots. If the go-around had been initiated before thrust reverser deployment, it probably would have been successful; but after two futile attempts to achieve forward thrust, the captain realized that a go-around was impossible. He redeployed the spoilers which had been retracted for the attempted go-around and used maximum braking, but it was too late. The aircraft left the runway, crossed a gully and a service road beyond the departure end, and slammed into a ravine. One passenger died in the crash; 32 others were injured. Probable cause? The National Transportation Safety Board cited the captain's faulty judgment in initiating a go-around after he was committed to a full-stop landing.

—Adapted from
NTSB Report AAR-76-20

He Who Hesitates

Three weeks after that accident, the same type aircraft overran the departure end of a 5,158-foot runway, struck several vehicles, and smashed into a gasoline station; 37 people died in the crash and ensuing fire. An aborted go-around attempt was again the central factor.

Although the runway was short (the 5,158 feet available for landing includes a 500-foot overrun), it was adequate for the conditions; in fact, the captain had made 154 previous landings there. Weather was VFR with gusty wind; the runway was dry. A bulletin issued by the airline in 1971 warns of unusual wind conditions caused by hilly terrain near the airport and of the possibility that an aircraft may tend to "float" if landed more than 1,000 feet down the runway.

The approach profile in this case was normal; airspeed over the threshold was slightly high. Both the crew and witnesses on the ground expected a normal touchdown—but at the 1,000-foot point, the aircraft encountered sudden turbulence. Airspeed increased by five knots; the aircraft rolled right and then, as the captain corrected the roll, began to float about ten feet above the runway. Touchdown was estimated as 2,500 to 3,000 feet past the approach end—a distance which would allow the aircraft to be safely stopped but, as the captain was to discover, not enough to execute a go-around.

Three seconds after touchdown, the captain decided to go around. His decision was most likely prompted by several things: the knowledge that he had landed long, the proximity of the buildings and hills near the departure end which created an impression of insufficient stopping distance, and his own estimate of the aircraft's go-around capability. Unfortunately, that estimate was based on his training in touch-and-go landings, during which both airspeed and engine r.p.m. are maintained as high as possible. Under these conditions, acceleration is rapid and ground roll is minimized. Misled by this previous experience, the captain did not realize that the time required for the engines to spool up from idle to takeoff thrust can be as much as nine seconds, or that the remaining runway was too short to allow the aircraft to accelerate to takeoff speed.

A few seconds after advancing the throttles, the captain decided that the aircraft's acceleration was not sufficient for a go-around. He closed the throttles and applied the wheel brakes, but under the pressure of the moment, did not deploy the spoilers or lower the nosewheel to the runway. With only 1,200 feet of runway and overrun left, an accident had become inevitable.

The NTSB found that the captain's decision to initiate a go-around was faulty and that his lack of substantive information about his aircraft's performance capabilities seriously affected his ability to make a sound decision.

—Adaped from
NTSB report AAR-77-1

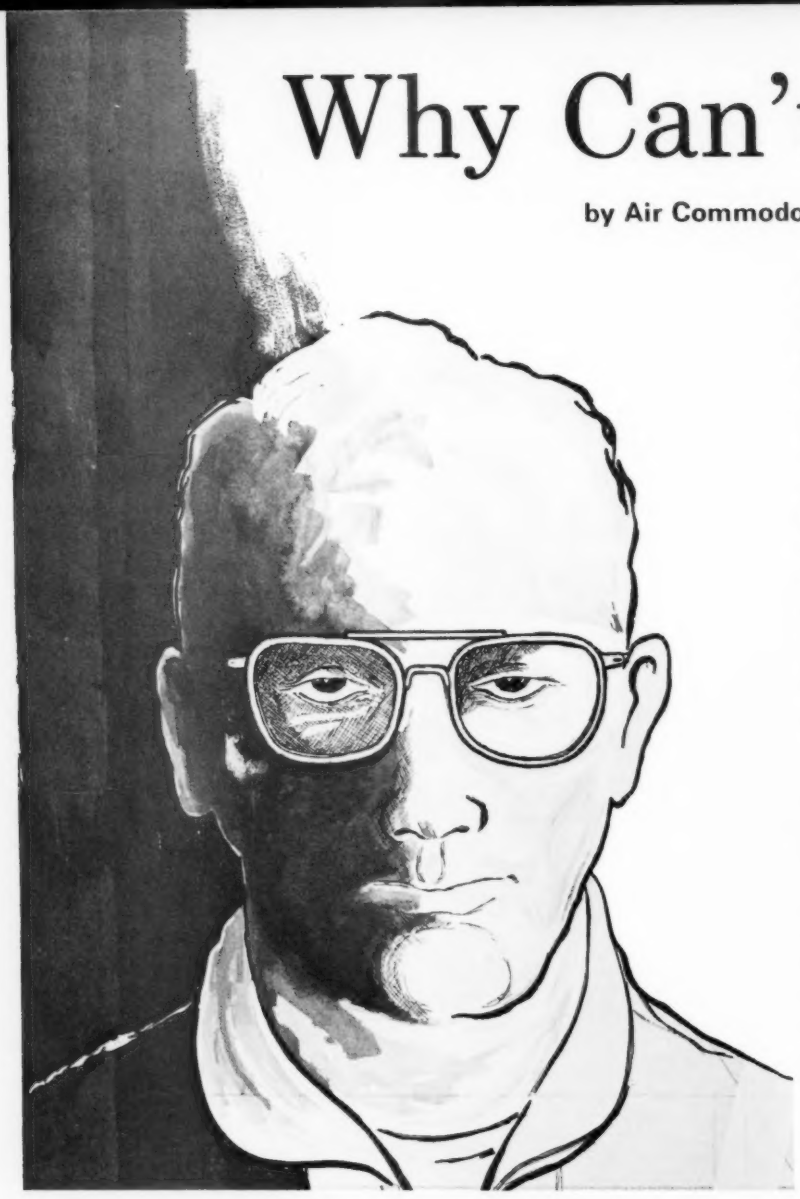
Knowing When To Go

Most MAC fixed-wing pilots have made many go-arounds; all of us have practiced both missed approaches and touch-and-go landings. But have you ever made a go-around after touchdown or used the maximum stopping performance of your aircraft? Can you relate the numbers in the performance charts to actual distances and speeds or to the "feel" of the aircraft during maximum performance maneuvers?

The decision to go around is almost always a safe decision—provided it's made soon enough to leave a margin for error.

Why Can't I Wear

by Air Commodore T.J.G. Price, RAF



Contact lenses have some advantages over eyeglasses. But for aviators, they also present problems.

Although this article was written by a British officer for RAF aircrews, it provides answers to questions MAC personnel may have concerning the wear of contact lenses. The U.S. Air Force also prohibits fliers from wearing contact lenses. Some of the reasons for this and new concepts in contact lens development are discussed by the author. Ed.

Flying spectacles can be awkward for those aircrew who may need some sight correction for various roles. Contact lenses may seem to be the answer, but for any aircrew considering investing in contact lenses the message is — wait. Current contact lenses can be troublesome, and an official trial is now in hand on a new type of lens which might solve some of the problems for military use.

Corrected flying spectacles of various types have been prescribed in military and civil aviation for over 30 years. These spectacles give good and stable correction of central vision, both for distance and near sight, and have proved to be an excellent means of retaining trained aircrew in all flying roles.

However, spectacles do have disadvantages. Because of helmet design, the width of the frame — and therefore the eye-size of the lenses — is limited, so the spectacles appear to be "too small" particularly to those who do not wear them constantly. They can also be difficult to fit around an oxygen mask.

Other troubles are that the plastic safety lenses scratch more easily than glass, and mist readily in hot or damp environments; and there are optical and manufacturing difficulties in dispensing certain lenses, particularly bifocals, when overhead instruments have to be read.

All spectacles, however large the lenses, do limit the field of fully corrected vision and leave an uncorrected area in the peripheral fields when extreme eye movements have to be used. These defects are impossible to correct, both anatomically and optically.

Why not contact lenses?

The obvious answer to the

Contact Lenses?

problem of wearing spectacles would appear to be to use contact lenses, which correct the whole of the visual field without obstruction and do not mist. Trials of hard contact lenses, both the large lenses which cover the whole eye and the small micro-corneal types, have been carried out in the past, but although a number of aircrew can wear them satisfactorily for acceptable lengths of time these lenses are not entirely satisfactory for military use.

It takes time for the initial fitting of the lenses and to acquire acceptable tolerance; and, as the lenses cannot be worn with safety while the wearer is asleep, they would be of less value to aircrew on alert since, in an emergency, it usually takes longer to insert contact lenses than to don a pair of spectacles.

There are other problems for aircrew, too. Dust blowing into the eye can track behind a contact lens and produce a painful corneal abrasion which will require grounding until healing is complete. And, owing to the reduction of oxygen transfer between the atmosphere and the anterior cornea, accumulation of break-down products leads to corneal swelling which produces "spectacle blur." This can reduce vision with both contact lenses and spectacles considerably; the blur frequently lasts in some degree for up to five days.

Also, at cabin altitudes of 20,000 feet and above, gases dissolved in the tear fluid can produce bubbles which degrade vision and, if the lenses are not removed, can produce corneal abrasions.

Under field conditions, too, problems with sterilization of lenses can be encountered. Replacement of a lens, for whatever reason, requires attendance at a specially and expensively equipped center instead of a normal ophthalmic department.

The "soft" lenses

In recent years hydrophilic, or "soft" contact lenses, have been developed which do away with some of the above difficulties; tolerance is easier to acquire, there is less risk from dust injury and, because of better oxygen transfer, "spectacle blur" and bubble formation do not occur.

However, these lenses still have problems. Fitting is more time-consuming as precise lens geometry is difficult to achieve in a hydrophilic gel, so that a number of trial lenses may be needed to achieve the high standard of vision required by aircrew. As the lenses conform with the curvature of the cornea they may not correct astigmatism (unequal curvature in two meridians); most of the soft lenses have to be removed, cleaned and sterilized daily and, being thin and soft, they are more liable to damage, thus having a short life, sometimes a matter of months. They need renewal more frequently than spectacles, which adds considerably to the cost of correcting vision.

Due to their physical characteristics, the refractive power of "soft" contact lenses depends on the degree of hydration, so that changes of ambient temperature and humidity can produce variation of visual acuity. Again, the "soft" lenses absorb aerosols, noxious fumes, chemicals in solution, etc., releasing them slowly onto the eye over a period of time if the lenses are not removed. It may not be possible, therefore, even to enter a battery charging room—and it is certainly not possible to swim in the sea while wearing these lenses.

New "permanent" lenses

Recently a new-type of soft lens has been developed which, being ultra-thin with good oxygen transfer properties, can be worn "permanently" — that is, for periods of up to about three months without removal, asleep or awake.

Although many of the problems of soft lenses will remain, these new lenses might well solve some of the visual difficulties of aircrew who need a correction, particularly for those in the high speed, low level and helicopter roles.

As it is of vital importance that our "fighting" aircrew can see as well as possible, a trial of the various types of soft contact lenses is now being carried out with the cooperation of Moorfields Eye Hospital and aircrew. If this preliminary trial is successful, the effects of various factors associated with the aviation environment will be studied at the RAF Institute of Aviation Medicine.

This trial will obviously be prolonged and, until firm conclusions are reached, aircrew would be well advised to avoid spending money on buying any form of contact lenses.

—*Air Clues*, Nov 1976

Supernatural help for a safety program turns out to be a bad bargain.

SATAN'S SAFETY

by Maj Grover C. Tate, Jr.
USAF (Ret)

Flying safety programs as we know them today are relatively new. During World War II, the Korean War, and even into the 1960's, much of the advice offered by safety officers was accepted reluctantly, or only when it was convenient to do so. Today strong safety programs are recognized as essential and given solid backing at the highest levels. The following is a fictional account of how one beleaguered commander disregarded the advice of his safety officer and set out to solve his unit's flight safety problems in his own unique way.

For veteran fliers who served in the days when flying was in its fledgling stage, this imaginative account may not sound as far-fetched as it will to those who have been schooled in safety principles from the day of their very first flight. Ed.

The hour was very late, but in one room of base headquarters the lights burned brightly. In that room one man, badly in need of sleep, stared blankly at the graphs spread on the scarred conference table before him. A single star gleamed from each shoulder of the blouse hanging on a coat rack; an impressive array of ribbons topped by command pilot's wings adorned the left breast.

At this moment the man was facing what seemed to be an insurmountable problem: trying to devise a way to stop the soaring accident rate in the wing which he commanded. War activities had overloaded his airlift capabilities and in almost direct proportion, the accident rate had increased. At a time when his aircraft were most needed, many were out of commission because of accidents.

Fatigue was overtaking the general and his emotions were beginning to win the battle with reason. There's got to be an easier way, he thought wearily. His mind returned again to the long and fruitless conference with his operations and safety staff.

"Yes, Sir, we can do it," the safety officer had said. "But you can't build a safety program from scratch overnight. It's going to take a lot of work, a lot of patience, and a lot of time."

Time we don't have, the general thought. Men in combat areas are depending on us to deliver the supplies they need, and we fail them because some idiot taxis an airplane into another one, or installs a part backwards, or won't use his checklist. We need results now — not next week, not next year.

He pushed the graphs away and leaned back in his chair. Clasping his hands behind his head, he closed his eyes. For a moment he dreamed of an absolutely accident-free operation — months and months of flying with no aircraft out for accident repair, no aircraft lost. He could saturate the troops with supplies. If only there were an easy way...

"I believe I can help you, General."

The general leaped to his feet, startled and fully awake.

"Who said that?" he demanded.

"You can't see me, and wouldn't want to if you could," the voice answered.

"I'm in no mood for games," the general countered. "Come out where I can see you."

"No, I can't do that. But I can offer you the easy solution you're looking for. It will, of course, require certain concessions on your part."

The general, tired and somewhat shaken, decided to go along with the shadowy cloak-and-dagger game. "What's your proposition, and who the devil are you?" he asked.

The voice chuckled. "Be careful, General. You wouldn't want to take my name in vain."

"You are the Devil?" the general asked.

"The very same," replied the voice. "Or, if you prefer, Lucifer or Satan will do as well."

"You I don't need. I have problems enough without having you on my back," the general said. "Not only that," he added, "but I remember the lousy deal you gave Daniel Webster's client."

"As they say, General, you have to expect some losses. But you also have to work with the best that's available; and at the moment, I'm in a position to

guarantee you two years of accident-free operation. Two years of absolutely no accidents, two years to win your war, two years to develop your own accident prevention program. I'll give you an ironclad guarantee, and we can start right now."

"And in exchange?" the general asked.

"The usual terms," the devil replied smoothly. "As things are now, it's rather a tossup as to who gets your soul, and I suspect the odds are a bit in my favor. This way I get a sure thing, and you get what now seems impossible — no accidents for two years. You may even pick up another star or two along the way. So you see, General, there *is* an easy way."

Suppose it *were* real? No accidents for two years...

The general withdrew into deep thought. He hadn't led a bad life, but there were a few things here and there that might make him a candidate for the lower regions, so would he really be gambling? Besides, the whole situation was probably his imagination; he'd laugh at himself in the morning.

But then again, suppose it *were* real? No accidents for two years . . .

Partly in jest, partly in desperation, the general made his decision. "I'll accept your offer," he said.

"Done," the voice replied, and all was quiet.

•

As the general sat at his desk the next morning, he was unable to shake the nagging feeling that the events of the night before had not been simply a product of fatigue and imagination. He was turning the memory over and over in his mind, trying to separate fact from illusion, when his secretary called.

"Sir, Colonel Ellis is on the phone. He says it's urgent that he speak with you immediately."

A strange chill seemed to come over the room. "Put him on," the general said apprehensively.

"Sir, we have problems." The colonel took a deep breath and went on. "We haven't been able to get a single bird off the ground today, and it's the same with our airplanes and crews out in the system. As nearly as we can tell none of our aircraft is airborne or capable of launch anywhere in the world. It's unbelievable, like a TV weirdo, but it's the truth. New engines are failing internally, structures are cracking, tanks won't hold fuel, flight crews are calling in sick, replacement parts are virtually nonexistent, and no one is flying. We can't get a single aircraft in operation." The colonel paused for breath and effect.

The general paled and slumped in his chair. Hesitantly he asked, "Have any of the aborts or cancellations been caused by accidents of any sort?"

"No, Sir, not to my knowledge," the colonel replied.

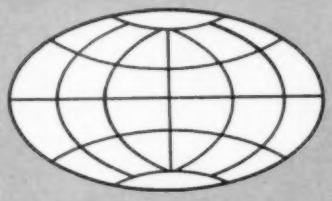
...what would the other half of the bargain be like?

"I thought not," the general replied with sick certainty. "Let me know if anything changes, Tom. I'll get back to you later." He replaced the receiver with a shaking hand.

So this is it, he thought grimly — the real beginning of the nightmare. Two years of no accidents, he had said. Nothing was said of flying, nothing of safe *flight* operations. He'd been had. This was what he had received in exchange for his soul. This was his "easy solution." This was the product of unsound thinking, of fatigue, of desperation, of shallow ambition and of panic. And if this was the good part of the bargain — what would the other half be like? The general shuddered.

But it couldn't be real, he thought desperately. These things only happen in stories, not in real life. It *can't* be real.

It was then that he noticed the large hole burned into the carpet near his desk.



Global Notes

Humanitarian Efforts

The 54 WRS, Andersen AFB, Guam, has been named the recipient of The United of Omaha Public Service Award. The weather reconnaissance unit was honored for humanitarian service to the public beyond its normal military duties. The unit's long history of service to the civilian communities of the western Pacific includes "Christmas Drops" which had been made annually since 1947 until they were terminated a few years ago due to the current lack of aircraft resources. The airdrop of holiday gifts to the outlying islands of the Trust Territories of the Pacific has been of lasting, beneficial effect. The 54th was also cited for its recent service to civilian communities in the area through its search and rescue activities. The people of Guam, the Trust Territories, the Philippine Islands, Taiwan, and Japan have also benefited from the unit's reconnaissance of an average of 25 tropical storms and typhoons that rage in the western Pacific each year.

Outstanding Units

Co-winners of the MAC Outstanding Forward Supply Location Award for 1976 are Incirlik Common Defense Installation, Turkey, and Clark Air Base, Republic of the Philippines.

The award is based on supply, inventory, and issue effectiveness and departure versus delay reporting percentages.

Unique to MAC, the Forward Supply Location provides for the prepositioning of spare parts peculiar to C-5's and C-141's at en route and turnaround stations normally transited by these aircraft.

Quick Thinking

For his quick decisions which may have averted a disastrous situation, Capt Wayne K. Ranne, 773 TAS, Dyess AFB, Texas, has received the MAC Distinguished Individual Safety Award. Captain Ranne was flying a C-130H on final approach when the aircraft experienced a nose-right condition with full right rudder deflection. He immediately executed a go-around and conducted a controllability check. Rudder control difficulty was found to occur only below 150 KIAS. After declaring an emergency, Captain Ranne flew a high-airspeed approach and landed without further incident.

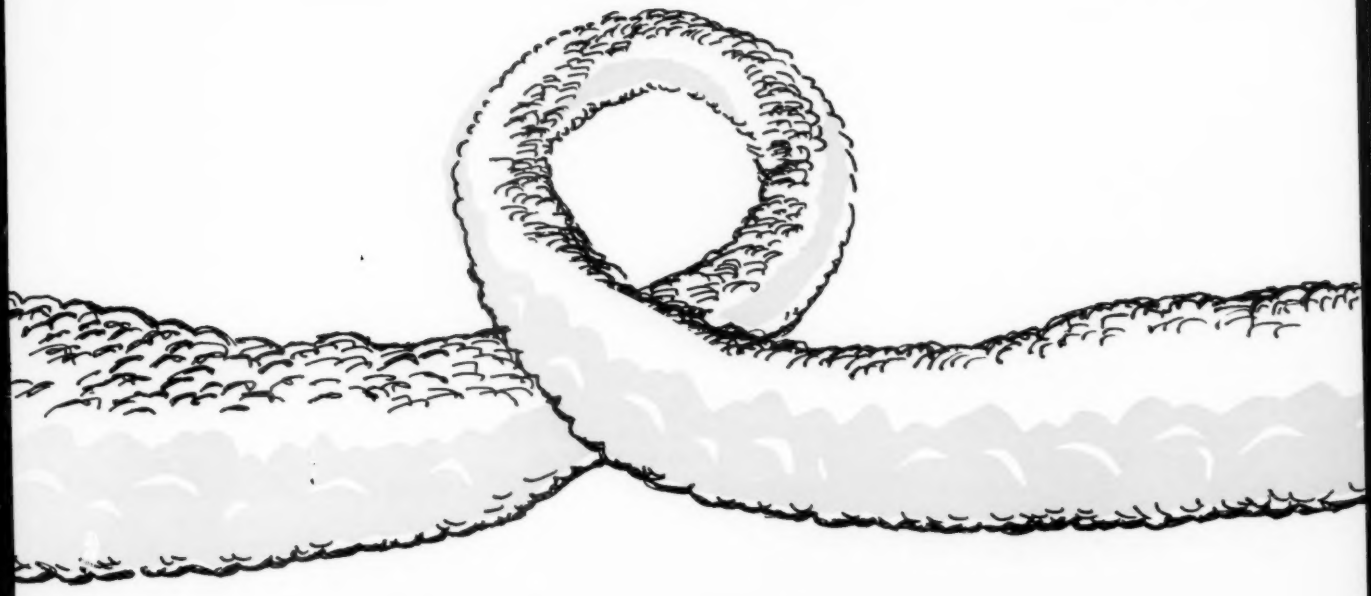
Rescue Unit Honored

The 55 ARRS, Eglin AFB, Florida, has been named the 1976 winner of the Pitsenbarger Memorial Trophy, an award which annually recognizes the outstanding ARRS pararescue section.

Each year active and reserve pararescue sections are evaluated on mission prosecution, equipment maintenance, safety record, and other factors. The trophy is named for A1C William H. Pitsenbarger, who was the first enlisted recipient of the Air Force Cross in the war in Southeast Asia and the first pararescue specialist to lose his life in that conflict.

Bad News Bearing

Capt James E. Mateski and his crew, Capt Jeffrey L. Schefelker, copilot, and Sgt Gerald L. Akers, flight mechanic, Det 22, 41 RWRW, were homeward bound from the Teton Dam disaster area when a loud buzz was heard and felt throughout their UH-1N's airframe. Captain Mateski landed his aircraft at the only suitable area within miles. He then directed the crew to check the aircraft for anything unusual. When Sergeant Akers opened the combining gearbox access panels, he saw the tail rotor shaft moving vertically out of its plane. He reported that a tail rotor hanger bearing had disintegrated and that further flight would be impossible. As Captain Mateski reduced the throttles to flight idle, the tail rotor shaft began to shake violently; he immediately completed aircraft shutdown. An investigation indicated failure of the tail rotor shaft was imminent due to a faulty hanger bearing. For their quick actions and decisions, the three crewmembers received MAC Distinguished Individual Safety Awards.



The Flying Circus

He flew through the air with the greatest of ease . . . . That's right, folks, the flying circus is back. This month's version features Jumbos, human cannonballs, and death-defying aerial acts. So get your cotton candy and hot dog, and prepare for some of the most unusual aeronautical shenanigans on record.

The Human Cannonball

The trajectory of this aerial act was set to carry it from departure to destination, a distance of 86 miles, in 33 minutes; but our human cannonball, in a feat of aerial one-upmanship, decided to fireball his Boeing over the distance in a mere 15 minutes. (That translates into an *average* ground speed of 344 knots!)

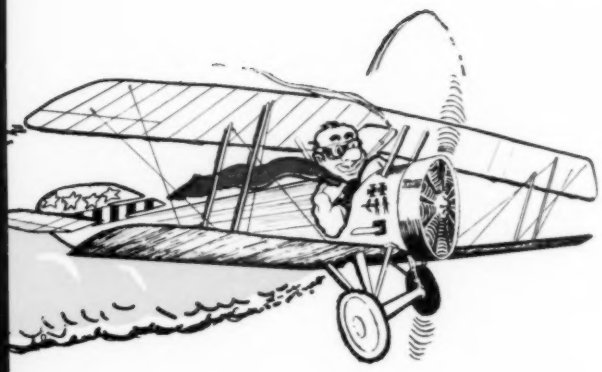
Not much is known about the launch and apogee of the cannonball's flight, but witnesses in the "target area" said that the aircraft passed over their town at a higher than normal speed and that the gear and flaps were not lowered until between two and three miles from the end of the runway. The flight contacted tower about 30 miles out and reported the airport in sight. The Boeing was cleared for a contact approach and was instructed to call passing 10,000 feet. But no other calls were made.

The tower controller first saw the aircraft when it was approximately two miles out and coming straight in very fast. He expected the bird to go around because of its excessive speed. No landing clearance was given. But the pilot landed anyway, long—at least 6,000 feet down the 9,500-foot runway. The aircraft screeched off the runway and sank into the soft earth nearly 250 feet past the departure end.

Flight Safety Facts and Reports

Dumbo Jumbo and the Tijuana Taxi

With much turbo-fanfare, the jumbo driver was performing an engine runup for maintenance personnel while they checked out a pressurization problem. The aircraft was light and its brakes were set, holding it in position on the end of the



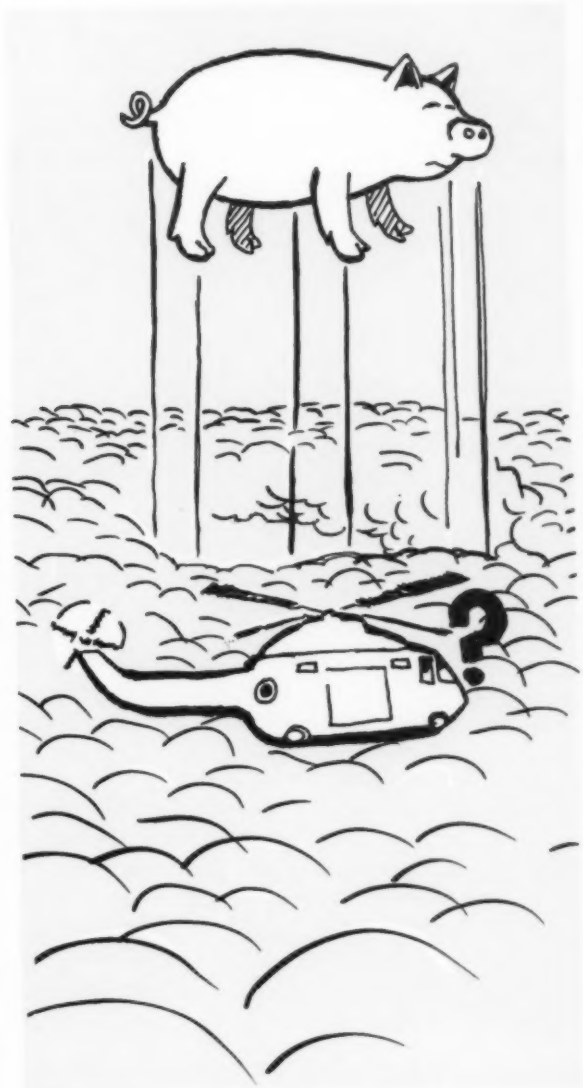
runway. Noting that the powerful fans were stirring up a mess of debris, tower asked the crew to taxi down the runway a short distance to keep from making tumbleweeds out of passing Volkswagens.

The pilot agreed but used a technique of his own to get the big multi-wheeler moving. Instead of pulling the power back, losing pressurization, releasing the brakes and starting all over again, he merely released the brakes slightly until the hulk of machinery began to move. Some wheels turned—some didn't. The tires on those that didn't began to smoke and then deflated. Taxi fare in this case was $3,000 for new "dragging" slicks.

Pig in the Sky

Perhaps the most unique aerial act of the year comes from the British who tell this story in an official report.

The helicopter was flying along the River Thames at 1,000 feet AGL and 150 knots. Visibility was two miles and the pilot was just putting his aircraft into a right turn when he suddenly noticed *a large pink pig* at one o'clock less than a mile away. (The hour was early—sometime before pub opening). The sailing swine was rising rapidly out of the haze layer. The pilot took evasive action, passing the pork on its port flank.



The pig apparently was unaware of the helicopter's proximity. The pilot filed what the British refer to as an air-miss.

Investigators found that the pig was really a balloon, *40 to 50 feet long*. Apparently tethered as part of a publicity stunt, it had broken loose. The report didn't indicate whether the stunt was designed to promote, or deglamorize, some type of alcoholic beverage.

Flight Safety Bulletin

A Triple Somersault and Full Twist

The crew of the twin-engine trainer was instructed by rapcon to turn right and descend to 15,000 feet for recovery. The student pilot, flying the aircraft without a hood, had stabilized the bank at 30 degrees. The instructor, noticing a large cumulus cloud in their flight path, "nudged" the stick and retarded the throttles. The student thought the instructor had assumed control of the aircraft, so he released his controls. With no one flying it, the aircraft entered the cloud in a descending right turn, rolling through 40 degrees of bank. As the aircraft entered the cloud, slush ice formed on the windscreen and the instructor turned his head to check the wings for icing. When he returned his attention to the instruments a few seconds later, he was surprised to see that the attitude indicator was "all black" and that the altimeter was unwinding through 14,000 feet. Using his flight instruments, he began a recovery. Feeling that the wobbling attitude indicator was unreliable, he changed his reference to the turn needle and VVI. He pulled the aircraft into a climb until the airspeed decayed to approximately 100 knots. Then, fearing he would enter a spin, he released the controls. Again, the aircraft fell off into a dive. The turn needle stabilized and back pressure was applied to shallow the dive. The aircraft subsequently exited the base of the cloud layer at 13,000 feet at an estimated dive angle of 70 degrees. A high speed dive recovery was accomplished to the tune of 8.5 G's. No damage, no injuries. A lot of anxiety.

No circus would be complete without some short acts. Here's a series of one-liner extracts from various fly-safe publications. The feats of derring-do leave the explanation to your imagination.

Splitting Hares

". . . the landing gear collapsed when the pilot turned to avoid a hare while taxiing at 40 m.p.h. prior to takeoff. He was familiarizing himself with the handling qualities of a newly purchased aircraft."

Flight Safety Bulletin

Look Out for the Bull!

"Helicopter struck bull during cattle mustering exercise. Aircraft destroyed, pilot injured." No report on the bull.

British Airways Air Safety Review

The Cow Jumps Over the Moon

This abbreviated report comes as close as anything yet reported to giving credence to that old nursery rhyme.

"Boeing 737 hit cows just *after* takeoff. One hydraulic system failed and minor damage to flap."

Housewives have said all along that beef is too high.

Flight Safety Bulletin

That's Show Biz

Most television newsmen cover the news, not make it. But there's always an exception. Here's the report, short and to the point: "Piper J-3 wingtip struck TV reporter during flour bombing operation at Weston-Super-Mare aerodrome."

Unlike a television newscast, this report had no further details.

Flight Safety Bulletin

Perhaps you have a story that would qualify for "The Flying Circus." If so, the editors would like to hear (or read) it. The editorial staff guarantees anonymity. Just send it to:

The Flying Circus
c/o THE MAC FLYER
HQ MAC/IGFE
Scott AFB IL 62225

What kind of man should sit at the controls of an aircraft? Basic flying ability is necessary, but skill is not enough.

by Lt Col John W. Ray
Supervising Editor

Aviation Character, An Essential Ingredient

If someone were to ask you what you consider the single most important trait of a pilot, what would your answer be?

This question is predicated on pilots — or airline captains or aircraft commanders, if you prefer—being fully qualified and possessing whatever level of experience you believe is desirable.

Would your answer be "self-discipline" or "leadership" or, perhaps, simply "integrity?" If you're among those who feel integrity tops the list, you're edging close to one of the most essential, though often overlooked, aspects of aircrew quali-

fication.

Our answer, as the title to this article implies, is "character." A legitimate question is whether character in airmanship is really more crucial than integrity and whether or not the terms mean the same thing. Semantics notwithstanding, there is a difference which could prove significant.

If you're a critical reader, you've probably observed by now that some of the questions are phrased in a manner that will allow a definite distinction between "character" and "integrity." This was no accident.

Most of you have been well versed, either at home, school, or after entering service, in the reasons for and definition of integrity. To refresh your memory, integrity is the quality or state of being of sound moral principle; it means uprightness, honesty, and sincerity. Integrity is important.

Yet, compare this with character — "moral strength, self-discipline, fortitude." All strong, active words. Character is integrity, plus. It is self-discipline, plus. And it implies a strength that integrity alone cannot match. This is why character may be the single most important trait for all aircrewmen.

Pilots and their crews toil in an environment in which life-or-death decisions must be made with frequency unequaled in most professions. And not all of these decisions are related to mechanical malfunctions of aircraft. If they were, then character would not play such an important role in aviation. Because pilots and crews must not only react procedurally to emergencies, but make crucial decisions as well, the juggernaut forces of "self-discipline, fortitude, and moral strength" often work together to head off critical problems before they arise.

Character Assurance

Gerard M. Bruggink, of the National Transportation Safety Board, has become so concerned with pilot character that he suggests research to determine the feasibility of a "character assurance" program. In a paper entitled "Human Error Accidents and Character Assurance," he links individual integrity, self-discipline, moral fibre, and innate intelligence in defining the desired pilot character.

Mr. Bruggink says that all practical means to assure top quality equipment and training for flight safety have already been exhausted. Now, he says, expertise should be directed toward assuring the quality of pilot character.

He points out that while flying accident rates have taken a nosedive in the past 25 years, the percentage of accidents attributed to operator error has remained about the same. Air Force accident statistics over the years tend to support his contention that while the reliability of aircraft has reached an unprecedented high level, pilot reliability has not risen accordingly.

There may be some disagreement as to the complete applicability of Mr. Bruggink's theory to the Air Force operation, but there can be little doubt that character plays a major role in accident potential. Judgment decisions very often reflect a person's character, and making decisions is what flying is all about.

Defining Aviation Character

While the dictionary clearly spells out the meaning of "character," the term "aviation character" is easier to discuss than to define. Who among us possesses it and who doesn't? How many have ever considered aviation character deficiency a cause factor in an accident?

Character and attitude are interrelated, and it has been evident for many years that attitude often plays a key role in accidents. In an article appearing in *Approach* magazine, published by the U.S. Naval Safety Center, Dr. Robert A. Alkov writes about a U.S. Navy study of pilot-error accidents during 1975 and 1976. A composite profile of the pilots involved in a dozen accidents during this time reveals an individual who is "resentful of authority, which he feels puts unfair restrictions upon his superior performance." This pilot also acts out the role of the "hot" pilot seen in movies, novels and television. According to the article, "His model is a fictional, feisty character out of an old John Wayne movie. He sees himself as an overly aggressive barroom brawler and a two-fisted drinker." Dr. Alkov says that a commonality in the cases were characteristics of excess aggressiveness coupled with immaturity or impulsivity.

The Navy study concentrates primarily on the

personality and psychological aspect of fliers, but there are definite overtones toward what may be referred to as deficiencies in aviation character.

Most of us have had our aviation character tested in one way or other. In our earlier years we may have debated whether or not to follow the leader (or our own urge) and fly under a bridge, buzz a locomotive, cattle, coyotes, or an unsuspecting farmer. Remember how, during primary or basic training, some of the students "cut out" their buddies in the traffic pattern by employing maneuvers that today could best be described as near-misses?

Later, the challenge of character became more sophisticated: deciding whether or not to divert to an alternate when the weather was at or below minimums at the best RON base in the country; deciding whether or not to declare an emergency for a squirrelly malfunction that two previous crews didn't consider important enough to write up; coping with the prospect of backing down from what appeared to be one of your better decisions—after events proved it wrong.

And there are subtle character challenges that we face more frequently. Should I really bone up on that strange aircraft system? After all, tomorrow's flight will be strictly routine; the trip has been long and tiring, so why should I punish myself further by trying to stay alert? Or, there may not be enough room to taxi in that congested area, but my only alternative is to shut down on the taxi-way, and operations wouldn't like that. Perhaps there is enough room, after all.

As much as anything, aviation character is the triumph of humility and common sense over arrogance and overconfidence.

When It Isn't There

Obviously, not all aircraft mishaps are due to a lack of character. There are such things as *honest* mistakes that have nothing to do with character. But too often character deficiency plays a part in accidents that should never occur or, having occurred, would have had much less impact with a show of character by the crews involved.

Most of us have either known, or heard of, an instructor or flight examiner — both are supposed to set good examples — who had an accident while intentionally violating regulations or directives. Fortunately, such cases are rare. But they do occur. In one such occurrence a few years ago, three FAA officials were charged by the National Transportation Safety Board with flagrant disregard for prescribed procedures and safe operating procedures after a nonfatal crash. Investigators found that the pilot-in-command was not at the controls and the pilot in the left seat was not even type-rated for the aircraft. The right seater was the only one of the three who was legally occupying a crew position when the plane crashed on takeoff. Aviation character?

You may recall the incident in which a number of passengers and cabin attendants were injured when a foreign airliner ran into turbulence at 33,000 feet while flying over the United States. The captain hadn't bothered to advise his passengers to fasten their seatbelts although the nearby thunderstorm was clearly in view, so all hell broke loose when the turbulence was encountered. Fifteen persons injured and a destination seven hours away. What did the captain do? Land and seek treatment for the injured? Wrong. He flew to his original destination in Europe! Lack of character manifests itself in many ways.

An Expression of Qualities

While it may sound like a new term, aviation character is, in the final analysis, simply a phrase denoting certain desired crewmember qualities. You may have your own descriptive term for the same thing.

Most aircrewmembers possess aviation character. There are some who do not. Merely acknowledging its importance is not enough to ensure its existence within ourselves. A crewmember must be willing to develop — or reshape — himself to form character and this in itself requires a degree of mental discipline that some aircrewmembers may consider unnecessary and others find unacceptable.

Strong command leadership may assist in building aviation character but here again, leadership alone isn't enough. Aviation character can neither be decreed, bought, nor attained on short notice. It is made up of strong, basic, personal qualities that must be persistently nourished. If you don't have it, you can develop it. But no one else can do it for you.

Captain Mattke

Captain Pewthers

Captain Looney

At the T-39 Central Training Facility (CTF) at Scott AFB, it's not unusual to find a training mission manned by pilots from widely separated units. One such flight was commanded by Capt Jennings H. Pewthers, a CTF instructor pilot on temporary duty from Det 1, 1400 MAS, McClellan AFB, California. His students were Capt Robert B. Looney, Det 4, 1402 MAS, Eglin AFB, Florida, and Capt James D. Mattke, Det 2, 1401 MAS, Wright-Patterson AFB, Ohio. To add to the geographic variety, the crew was training at Blytheville AFB, Arkansas, due to bad weather in the Scott area.

The mission had gone smoothly until just before the final full-stop landing, when the crew noted an unsafe indication on the left main gear. Discontinuing the approach, Captain Pewthers initiated Dash One emergency procedures; these were accomplished without success. The crew called for a Conference Skyhook and executed several tower fly-bys. The tower confirmed that the left main gear appeared to be only partially extended and that the landing gear doors were open.

The pilots discussed the situation with maintenance and operations personnel and tried several more procedures, but the unsafe indication persisted. Finally, with fuel approaching an emergency state, they discontinued the gear-lowering attempts and Captain Pewthers made the decision to land wheels up.

As Captains Pewthers and Looney configured the aircraft and performed the appropriate emergency procedures, Captain Mattke secured the cabin and removed the emergency escape hatch for quick egress. Finally, with only 300 pounds of fuel remaining, the Sabreliner touched down smoothly and slid to a stop on the runway; the crew exited without injury.

The wheels-up landing was accomplished so skillfully that damage to the aircraft confined the mishap to the "incident" category. The crew coordination, cockpit discipline, and expertise displayed by Captain Pewthers and crew were instrumental in minimizing aircraft damage and preventing more serious consequences. Good Show!

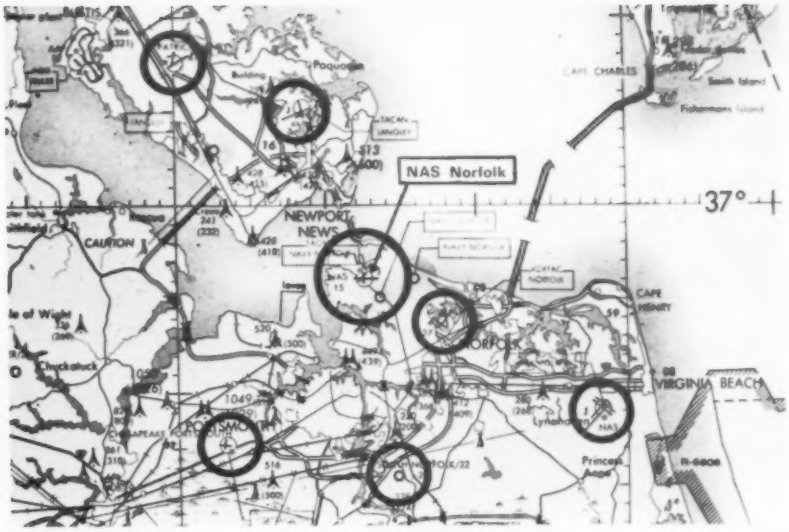
NAS Norfolk

Naval Air Station Norfolk, Virginia, is located on a level peninsula along the southern shore of the Chesapeake Bay. It is five miles north of the city of Norfolk. There are two major aviation hazards to watch for when duty calls you to Norfolk: (1) the general aviation traffic and (2) runways and taxiways which don't meet MAC obstacle clearance criteria.

Within 15 miles of Norfolk, there are six airfields. VFR general aviation traffic transiting these airports plus air traffic following the coastal routes create a real midair potential.

As with many other NAS's, airfield obstructions such as runway distance markers, arresting gear and signs, and optical landing systems equipment don't meet MAC clearance criteria. Study the charts and photos, and if you're going into Norfolk for the first time, be sure and check your local Learning Center for the APQ program.

—Adopted from ISD-Q6-462



Map of Norfolk area. There are six airfields within 15 miles of the NAS.

On final for runway 28, six miles out.

As with other NAS's, many obstructions do not meet MAC clearance criteria.

The Rotund Rotorhead pits his skill and cunning against the challenge of a rescue mission—and, as usual, loses.

The Huey hovered precariously over a marked spot on the taxiway, swinging first to the right, then back to the left, up, then down. The wind was calm.

"As you can see, Sammy, gusty conditions could make hovering somewhat difficult for inexperienced pilots," C.R. rationalized to his copilot. "Fortunately, the experience and technique of yours truly are such that it's really no sweat for me to hover over a three-foot target even in the worst conditions."

Sammy eyed his boss skeptically. "Er, yes, Sir. But didn't tower say the winds were calm? Maybe I'd better check ag—"

"Never mind, m'lad," hastened the Terror of the Airways. "What say we try something else? Sergeant Torque, run the hoist up lest we spend the rest of the day in a hover."

Sergeant Torque, suffering from a mild case of motion sickness, gladly complied with his boss's instructions and ran the hoist up into the unsteady chopper. He was completing his checklist as C.R. pulled in power. The Huey popped up into a 30-foot hover and eased forward. Within seconds, C.R. had entered the traffic pattern and was itching to liven up the local flight.

"Sammy," revealed the Bald One in his most officious tone, "I am now going to demonstrate a maneuver that you may never have experienced before. Don't get excited; just hold on to your hat—er, helmet, hee, hee."

"What are we gonna do now?" asked his faithful copilot, wanting to know but a little afraid of what his aircraft commander's answer might be.

"Would you believe a 360-degree autorotation from 300 feet?"

"Gosh, Sir, I don't think we're supposed to be doing autorotations without an instructor pilot aboard. And a 360-degree autorotation from 300 feet *must* be illegal," pleaded the nervous left-seater.

"Not to worry, m'boy; you never know when you might need to do an actual 360-degree autorotation from low altitude; can't expect to learn how if you don't practice," scolded the Paunchus Pilot. "And surely you aren't suggesting that we call up and ask for an IP to help one as experienced as I to fly."

The Master Manipulator called for landing clearance and slammed the collective to the floor, simultaneously wracking the Huey into a 70-degree bank. The chopper lurched, its nose plunging downward in a tight spiral.

The rotor whined and the tachometer needle flipped past

335 r.p.m. as the rate of descent increased. Then, the high r.p.m. warning light flashed.

"The r.p.m., Sir. It's high," warned Sammy.

"Ah, yes; well, no problem, m'lad," assured the Omnipotent One as he eased up the collective. The light went out, and the r.p.m. dropped back within limits. But, distracted by the rotor overspeed, C.R. had allowed the bank to shallow out too much.

The Clever Collective Clutcher steepened the bank and unconsciously pulled up on the collective. Now, as the Huey approached the runway at a 90-degree angle and less than 100 feet, the r.p.m. dropped dangerously low.

Beep, beep, beep. It was the low r.p.m. audio signal. Struggling hard with the controls, C.R. mumbled inaudibly as his favorite demonstration deteriorated further.

"Ahem, Sammy," explained the Great One, "instead of an autorotation, we'll just make this a slide-on landing. Er, the winds are out of limits for an autorotation, anyway."

Regaining his lost r.p.m., C.R. pulled in power and began his version of a shallow approach to the 10,000-foot-long runway.

"Just watch this. Sammy, did I ever tell you that they used to call me 'Slide-on Terror' at Sheppard?"

The Huey skimmed along a few feet above the runway. Then, at 30 knots, C.R. abruptly lowered the collective. The chopper slammed to the ground. Sparks flew from the skids as the Huey slid down the runway. Then it stopped, rocked, and tilted forward.

Pow, pow, pow. The rotor blades nicked the runway and the Huey rocked back level.

"G-g-golly," stammered Sammy, "I believe we got the rotor tip. W-w-wow. Are we ever vibrating."

"Ah, heh, heh," blushed C.R. "Just a few pebbles flying up into the rotor system. Nothing to w-w-w-worry a-b-b-bout. Very m-m-minor v-v-ib-b- rashun."

The vibrating Huey lifted off the runway and made a shakey takeoff under the tutelage of the World's Greatest Aviator. In a quivering voice, Sergeant Torque suggested that the flight be cancelled and the helicopter taken in for repair. C.R. declined on the grounds that replacing parts unnecessarily would be a waste of government funds.

The Terrorific Trio departed the traffic pattern, their helicopter bumping and grinding. Sammy was about to beg his fearless leader to reconsider his decision when tower called. C.R. was instructed to contact his detachment operations. The intrepid aviator switched channels, made his call, and was answered immediately.

"Otter One, we just received word that a couple of mountain climbers are stranded on Antelope Mountain. One of them may be injured and we've been requested to recover them. Return to base, pick up a flight surgeon, and proceed to these coordinates . . ."

C.R. grinned at Sammy. "M'boy, you are now about to witness the act to which we are devoting our careers," he boasted gleefully. "You have the aircraft. Turn to a heading of two-seven-zero while I relax for a moment before doing my thing."

"Er, yes, Sir. But how about the flight surgeon?" asked Sammy. "Aren't we going back to pick him up like operations said?"

"Sammy, ole chum," bemused the Terrorific One, "the key to a successful rescue is speed. We don't have time to diddle around with the likes of a flight surgeon. Sergeant Torque knows all about first aid, anyway."

The Huey bumped off in the direction of Antelope Mountain and the crew prepared for the pickup. C.R. smiled. Visions of glory and the inevitable newspaper accounts of his derring-do danced inside his shiny cranium.

"There they are, Major, at two o'clock," shouted Sergeant Torque, pointing to two men and a tent perched on a peak a half mile away. One of the men was waving frantically and the other seemed to be lying down.

"Sammy, m'boy. I have the machine. Now watch carefully as the master goes into action. Sergeant Torque, once we're hovering over them, Sammy will come back and operate the hoist and you'll be going down to check the survivors."

The Huey bumped along violently as C.R. put it into a steep, banking dive, aiming right at the two men on the mountain top.

"Ah, Sir, aren't we gonna drop smoke to determine the wind direction—or make a pass or two to check out the area?" quizzed the long-suffering co-pilot.

"Hmm," replied the Rotund One, "winds probably are out of the north. Usually are this time

of year. No need to waste our smoke bombs. The area looks good to me. Not a VC in sight. Hee, hee."

The Huey began its run in on the survivor at 100 knots. The man who had been waving was now smiling broadly, confident that rescue was assured; but as the zooming helicopter got closer, his smile disappeared and, panic stricken, he dove frantically into the dubious sanctuary of the tent.

"Yahoo!" yelled C.R. Realizing that he was about to overshoot his hover point, he jerked back on the cyclic and lowered the collective. Sammy's jaw dropped down on his chest as the helicopter, sinking fast with its nose pointing skyward, screamed toward the two men.

The injured man, his eyes now bulging like large golf balls, grabbed his splinted leg with both hands and desperately rolled into the tent with his companion. Meanwhile, the Great One, deciding that a go-around might indicate weakness on his part, managed to slow his descent just in time to save the approach. The helicopter came to a sudden stop, hovering dangerously close to the tent. A cloud of dust rose as C.R. slowly eased his pulsating craft into a 20-foot hover.

The badly shaken survivors peered cautiously from the tent and emerged slowly.

"Haw, haw, just like Southeast Asia," chortled C.R. "Reminds me of the time — but enough of that, lads. On with it. Sammy, go back and lower Sergeant Torque with the hoist."

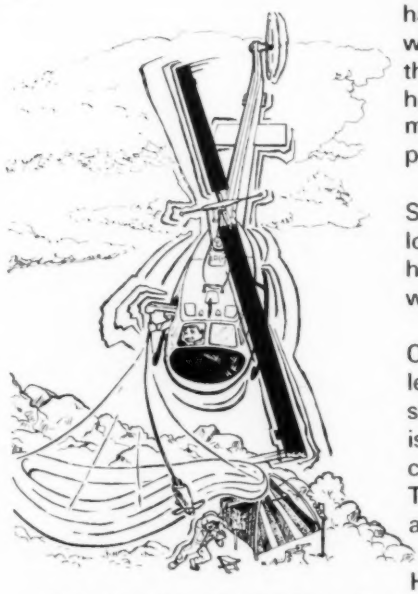
Sergeant Torque oscillated like a monkey on a vine as C.R.'s hover became more and more unsteady due to the damaged rotor blades; but the flight mechanic reached the ground just in time.

"Ulp, you take it for awhile, Sammy," directed the Master Manipulator as the Huey danced ungracefully over the three men on the ground. "You probably need the practice."

"I can't, Sir. I'm back here operating the hoist," replied the beleaguered copilot. "You want me to come back up front?"

Sergeant Torque and the two potential rescuees ducked low as the pendulous forest penetrator swung menacingly toward them. Closer and closer it came as the hover became more erratic.

"Hit the dirt," the sergeant cried. The penetrator swung over his head and smashed into the side of the tent like a medicine ball.



C.R. fought desperately to maintain his hover, but the additional power required at the high altitude exaggerated his control problems. Suddenly, the Huey banked sharply left, lifted upward, and then dropped off into a diving bank to the right. The hoist swung to and fro like a long pendulum. Finally, the hoist cable lashed upward into the swirling rotor blades with a loud bang.

"Let's get out of here, Sammy," yelled the indomitable pilot. "There's too much turbulence in here and safety is paramount."

●

"Look at it this way, Sir," consoled Sammy as the Dauntless Duo made their way back to the base in the badly vibrating helicopter, "it could have been a lot worse."

"Sammy, you may be right, but I don't see how. They'll probably try to blame me for the turbulence we unexpectedly encountered. I think I'll write a hazard report on the base weather people. Actually, it's their fault that we sheared the hoist cable and now have *three* men stranded on the mountain peak."

"If you say so, Sir," said Sammy, "but we might have lost it all if the forest penetrator had hit the rotor blades. At least we didn't hurt anybody."

"Perhaps," sighed the Great One. "But in spite of my excellent decision to abort the mission, I still wonder what the boss is gonna think when he sees us coming in minus Sergeant Torque and with a tent flapping around our skids."

Sammy stifled a giggle as the Huey entered the traffic pattern, a red and white tent trailing in the breeze like the battered colors of a defeated warrior.

Every now and then, someone comes up with a different way to have a taxi mishap.

Who's Following Whom?

There are documented incidents in which pilots, innocently following yellow taxi lines at strange airdromes, have smashed their aircraft into objects that smaller aircraft would have cleared.

But one of the latest twists in the continuing saga of taxi mishaps occurred when the pilot succumbed to an age-old pitfall that youngsters and adolescents are constantly warned against. He followed the crowd against his better judgment.

The Marine Embark Officer was on headset in the cockpit as the C-130 taxied toward the parking area. None of the crew was familiar with the area. The Marine, along with the tower and ground control, provided taxiing and parking information. As the C-130 approached the designated parking area, the Embark Officer pointed out the parking spot. The spot was between two rows of Marine fighter aircraft.

The pilot thought that the parking area looked tight, but the Marine advised that C-130's had parked there before. The pilot even considered deplaning a scanner, but then decided there was enough clearance. So, the scanner stayed aboard and the pilot directed the copilot and navigator to keep the wingtip clear.

Bearing the Hercules right toward a row of fighters, the pilot prepared for the 180-degree turn into his parking spot.

"That looks like about 25 feet," the copilot remarked.

"Start your left turn now," advised the navigator.

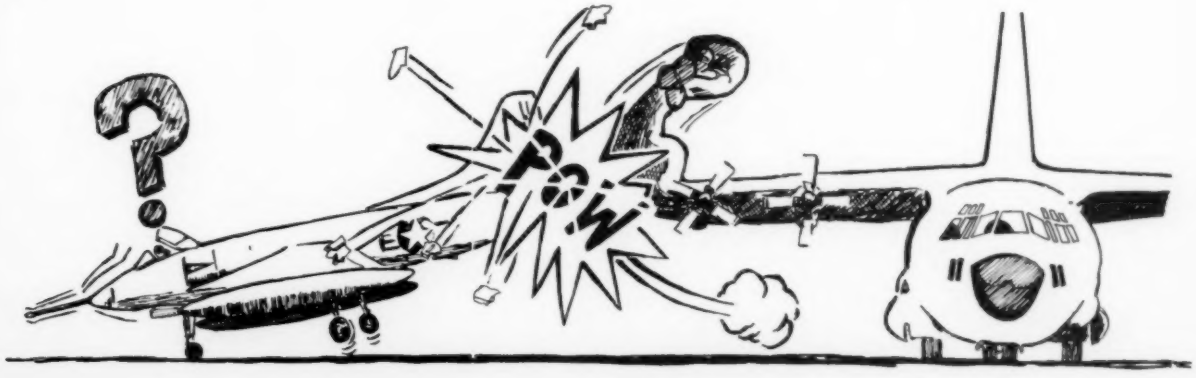
As the pilot began cranking the nosewheel steering, the wingtip struck the vertical stabilizer of a parked fighter. He continued the turn, then stopped and shut down the turboprops.

Though the navigator and copilot were monitoring wingtip clearance, neither warned the pilot of the impending collision. The copilot silently witnessed the actual crunch. But when the crew deplaned, the damage was clearly evident. The vertical stabilizer spar and rudder attach points on the fighter were broken, the rudder damaged, and the ECM pod was broken off. The leading edge of the C-130's right wing was damaged four feet in from the wingtip.

The ironical twist to this one is that at no time did the copilot or navigator inform the pilot that they were getting unusually close to the fighters. Apparently they never realized it. Ground witnesses thought the C-130 might have been taxiing a bit fast.

But the mishap might have been worse. Though the cleared radius in the parking spot was 245 feet, well over the minimum 220 feet required to turn a Hercules, the maneuvering route chosen by the pilot took his right wing within three feet of one parked fighter, arced through an empty parking spot, struck the tail of another fighter and missed a third by nine feet.

Following the crowd can be a hazardous business.



Quick Stoppers

Triple Flameout

It was a routine approach and landing; the Herky's nosewheel touched down, the copilot called 110 knots, and the pilot brought the throttles into full reverse as prescribed by the Dash One. Suddenly, things got interesting as turboprops number one, two, and four flamed out. The aircraft commander called for emergency brakes and stopped the 130 with no problems.

The crew inspected the engines but could find no apparent reason for the triple flameout. They restarted the engines and continued the mission to a station where maintenance was available.

Investigators ran the three suspect engines and found higher than normal torque in the reverse range. The pilot's and copilot's airspeed indicators also read three and four knots low, respectively. The combination of high torque and high touchdown speed was tagged as the possible cause of the incident. Aircrews should all be aware that, following an engine flameout, an engine flameout check by maintenance is required prior to the next flight— even if it means an unscheduled RON.

Static Sabotage

Summer's here again, with its attendant hazards: thunderstorms, heat exhaustion, heavy VFR traffic— and static displays. Sound frivolous? Not to the Navy pilots who took their airplane to an Air Force base for a static display last year. During preflight after the show, they discovered a crushed beer can wedged into the main landing gear uplock assembly. The base had provided increased ramp security during the display and the pilots had remained with their aircraft at all times, but one of the 50,000 visitors still managed to leave his potentially hazardous calling card.

—Thanks to *U.S. Navy Weekly Summary*

Rag Snag

The crew of the four-engine jet had just gotten the flaps up after takeoff when they discovered that they couldn't trim the aircraft either electrically or manually. The flaps were lowered again and, after burning off fuel and consulting with experts on the ground, the pilot made an uneventful landing. It didn't take long to find the cause of the problem—a 24- by 18-inch rag jammed in the stabilizer trim actuator drum. Investigators weren't able to determine exactly when the rag was left in the area, but a phase inspection had been completed 11 days prior to the incident.

Flaps vs. Spoilers

Have you Starlifter drivers ever wondered why the Dash One prohibits simultaneous in-flight extension of flaps and spoilers? A C-141 functional check flight crew found out why during a routine check of the wing flap lever high-force detent. With the spoilers extended to the flight position and airspeed at 220 knots, the detent failed and the flaps were inadvertently extended slightly. Turbulence from the extended spoilers at the higher airspeed caused the right inboard flap to come off the track, damaging the track and two jack screws.

FCF procedures have since been changed; this check is now accomplished at a lower airspeed and with only partial spoiler deployment.

Visors Are for the Birds

Helicopter pilots have at least one thing in common with the feathered variety of aviator: they both tend to use the same airspace. A Huey was on a low-level nav training mission at 100 feet AGL when the flight mechanic spotted a large flock of birds about 40 yards ahead. The pilot initiated a yank-and-bank exercise to avoid collision, but about half the flock miscalculated and turned in the same direction as the chopper. The impact broke the right windscreen, knocked out the outside air temperature gauge, bent the pitot tube 90 degrees, and dented the nose.

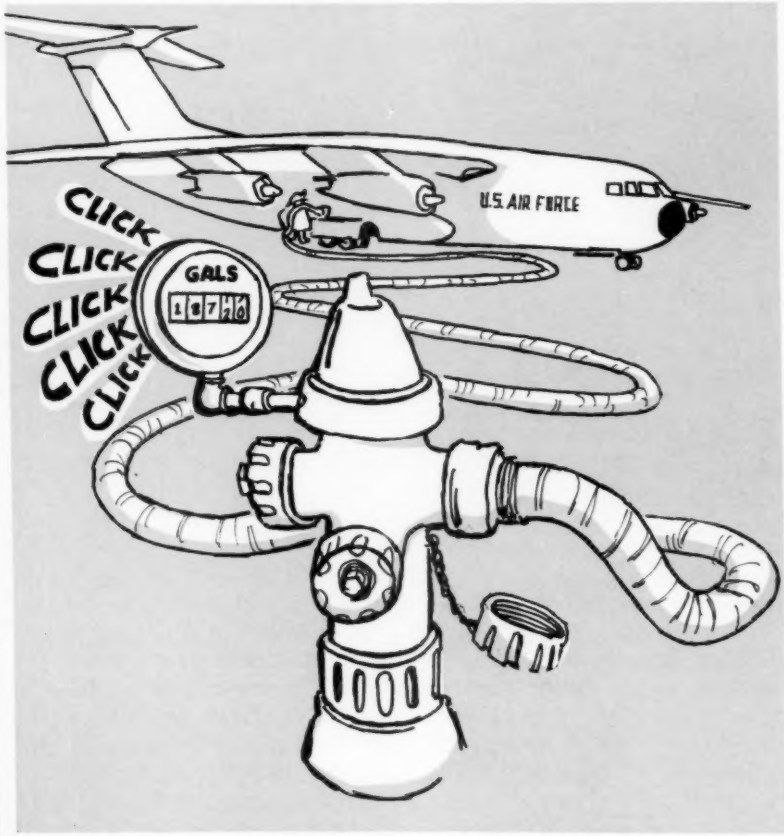
You don't have to be a fighter jock to need a protective visor when you're flying where the birds are.

Qs

They Won't Run on Water

A filter bypass light for the number one engine caught the Starlifter crew's attention as they cruised at FL 330. Fuel heat didn't help, so the engine was shut down as per Section III of the Dash One and the crew headed for a diversion base. Then, as they were descending through FL 300, the number four engine flamed out. It could not be restarted. Not being in the mood for a two-engine approach, the AC elected to restart number one. The subsequent three-engine approach and landing were uneventful.

On the ground, maintenance troops drained the sumps on all fuel tanks. The sump drain produced about five gallons of water and ice crystals; the water apparently had accumulated because the sumps had not been drained following the last three refuelings.



Flying FOD

Foreign objects are bad enough when they're ingested into a turbine engine— but when they're turned into projectiles by a fast-moving prop, watch out!. The crew of a C-130 heard a loud bang as the props were reversed on landing. Postflight inspection revealed damage to a prop blade on number three engine, a hole one inch in diameter in the fuselage, a cracked fuselage window—and a bullet-sized chunk of steel imbedded in the frame of a side-facing seat. Fortunately, the seat was unoccupied and stowed at the time.

This incident demonstrates the importance of picking up those small pieces of junk from the ramp.

Battery Mix

The H-1 was two and a half hours into its missile support mission on an unusually hot day when the pilot noticed the odor of acid. An electrical system check revealed an unusually high loadmeter reading, so the pilot shut off the battery and made a precautionary landing. After shutdown, he found that the number two battery had overheated.

But the hot weather wasn't the only reason for the overheat. Maintenance investigators found that different brands of cells had been installed in the same battery—a procedure specifically prohibited by the T.O.

after deadline . . . .

RECENT FATAL CRASH of a non-USAF T-39 was caused by structural failure of the horizontal stabilizer when the aircraft encountered severe turbulence on a low-level training route in mountainous terrain. Although a SIGMET warning of severe turbulence was in effect for the area, the pilots were apparently not informed of the fact during the weather briefing. Maybe a direct question about SIGMET's and hazardous weather conditions would be in order next time you stop at the weather desk.

MORE TURBULENCE--A C-130 loaded with Army vehicles and personnel was involved in multiple shuttles at a foreign location. The Herk AC began a descent from 9,500 feet, but at 6,000 feet all hell broke loose in severe turbulence. The aircraft's airspeed fluctuated by plus or minus 40 knots, and the G-meter readings ranged from plus two to minus one. The roller coaster ride caused one of the vehicles to pull a 5,000-pound tiedown ring out of the ramp; one of the passengers was struck by a flying object (possibly a vehicle chock) and was stunned for a couple of minutes. No serious injuries in this one.

C.R. TERROR T-SHIRTS--For those of you who entered our annual writing contest and are eagerly awaiting a T-shirt emblazoned with a likeness of the Legendary Lecher, the word is the same as for Fleet service and the crew bus: They're on the way.

NEXT MONTH--Mack C. Dent visits again with some of his inimitable philosophy, Déjà Vu takes you to the magic island of Hawaii, the Master Manipulator finds that any size airplane can get you in trouble, and there's a special surprise for you chopper guys.

* U.S. GOVERNMENT PRINTING OFFICE: 1977—765-011/2